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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/058,257	01/29/2002	Michael J. Stevenson	STEV -113	4056

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EXAMINER

FONTAINE, MONICA A

ART UNIT	PAPER NUMBER
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1732

DATE MAILED: 02/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/058,257

Applicant(s)

STEVENSON ET AL.

Examiner

Monica A Fontaine

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 January 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Information Disclosure Statement***

The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1 and 8 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a hydrocarbon resin having a viscosity of greater than 50cp, does not reasonably provide enablement for greater than 20[cp]. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to carry out the invention commensurate in scope with these claims.

Claims 1 and 8 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a polyolefin having a melt index less than 30g/min, does not reasonably provide enablement for less than 50[g/min]. The specification does not enable

any person skilled in the art to which it pertains, or with which it is most nearly connected, to carry out the invention commensurate in scope with these claims.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1 and 8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 1 and 8 contain references to specific material properties such as melt index and viscosity, but these claims do not give required units of the said properties. For purposes of examination, units of the said properties will be assumed to be those mentioned in the specification: viscosity [=] centipoises (cp); melt index [=] g/min.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Trogolo et al. (U.S. Patent 6,436,422), in view of Watanabe (U.S. Patent 5,562,872). Regarding Claim 1, Trogolo et al., hereafter "Trogolo," show that it is known to carry out a method to impart anti-microbial activity to the surface of a polyolefin object (Abstract) which comprises coating the surface with an anti-microbial composition (Column 2, lines 52-61; Column 5, lines 42-45)

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comprising from 0.5 to 5 weight percent of an anti-microbial metal selected from the group consisting of elemental and ionic silver, zinc, copper, and cadmium deposited on a solid carrier (Column 3, lines 53-65; Column 4, lines 1-4), and from 95 to 99.5 weight percent of a polyolefin fusible solid selected from the group consisting of a hydrocarbon resin having a viscosity at 177°C in excess of 20[cp], a polyolefin having a melt index less than 50[g/min] and mixtures thereof (Column 2, line 35; Column 5, lines 17-21, 42-47; Column 6, lines 14-16; It is noted that since Trogolo teaches the use of the specific polyolefin fusible solid in claim 6, Trogolo would inherently teach a material with the claimed properties above.). Trogolo does not teach heating the substrate to a specific temperature to fuse the coating to the substrate. Watanabe shows that it is known to carry out a method of making an antibacterial article comprising heating the surface to a temperature at least 250°F for sufficient time to fuse the coating into the wall of the object (Column 4, lines 13-15). Watanabe and Trogolo are combinable because they are concerned with a similar technical field, namely, that of making antimicrobial objects. It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Watanabe's temperature in Trogolo's molding process in order to ensure that the antimicrobial agent has completely fused to the object.

Regarding Claim 2, Trogolo shows the process as claimed as discussed in the rejection of Claim 1 above, including a process wherein said anti-microbial metal is silver (Column 3, lines 53-65), meeting applicant's claim.

Regarding Claim 3, Trogolo shows the process as claimed as discussed in the rejection of Claim 1 above, including a process wherein said carrier solid is an ion-exchange solid and said

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anti-microbial metal is ion-exchanged onto said carrier solid (Column 3, lines 53-65), meeting applicant's claim.

Regarding Claim 4, Trogolo shows the process as claimed as discussed in the rejection of Claims 1 and 3 above, including a process wherein said ion-exchange solid is zeolite (Column 3, lines 53-65), meeting applicant's claim.

Regarding Claim 5, Trogolo shows the process as claimed as discussed in the rejection of Claims 1 and 3 above, including a process wherein said anti-microbial metal includes zinc (Column 3, lines 53-65), meeting applicant's claim.

Regarding Claim 6, Trogolo shows the process as claimed as discussed in the rejection of Claim 1 above, including a process wherein said polyolefin fusible solid is polyethylene (Column 5, lines 42-47), meeting applicant's claim.

Regarding Claim 7, Trogolo shows the process as claimed as discussed in the rejection of Claim 1 above, including a process wherein said polyolefin fusible solid includes a hydrocarbon resin (Column 3, lines 35-42; Column 7, lines 31-36), meeting applicant's claim.

Claims 8-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guiste (U.S. Patent 6,085,367), in view of Trogolo. Regarding Claim 8, Guiste shows that it is known to carry out a method for fabrication of a hollow form plastic product in a rotational molding cycle wherein plastic particles are charged to a rotational mold, the mold is closed, heated to a molding temperature while being rotated about its major and minor axes for a time sufficient to form said molded product and the mold is cooled to a demolding temperature, opened and the molded product is ejected (Column 6, lines 5-12; It is noted that these rotational molding steps are well-

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known in the art of rotational molding.), the improved method for imparting anti-microbial activity to the exterior surface of said molded product which comprises applying to a selected area of the interior surface of said rotational mold at substantially the demolding temperature a coating (Column 3, lines 53-65; Column 4, lines 1-4) and continuing said rotational molding cycle to obtain a molded, hollow form plastic product having an anti-microbial composition fused into the wall of said product (Column 6, lines 4-12, 47-65). Guiste does not teach a specific anti-microbial coating composition. Trogolo shows that it is known to use an anti-microbial composition comprising from 0.5 to 5 weight percent of an anti-microbial metal selected from the group consisting of elemental and ionic silver, zinc, copper, and cadmium deposited on a solid carrier (Column 3, lines 53-65; Column 4, lines 1-4), and from 95 to 99.5 weight percent of a polyolefin fusible solid selected from the group consisting of a hydrocarbon resin having a viscosity at 177°C in excess of 20[cp], a polyolefin having a melt index less than 50[g/min] and mixtures thereof (Column 2, line 35; Column 5, lines 17-21, 42-47; Column 6, lines 14-16; It is noted that since Trogolo teaches the use of the specific polyolefin fusible solid in claim 6, Trogolo would inherently teach a material with the claimed properties above.). Trogolo and Guiste are combinable because they are concerned with a similar technical field, namely, that of making antimicrobial objects. It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Trogolo's anti-microbial composition in Guiste's molding process in order to produce a molded product that is specifically armed against the bacteria that are targeted by Trogolo's composition.

Regarding Claim 9, Guiste shows the process as claimed as discussed in the rejection of Claim 8 above, but does not show a specific anti-microbial metal. Trogolo shows that it is

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known to make an anti-microbial composition containing silver as the anti-microbial metal (Column 3, lines 53-65). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Trogolo's specific anti-microbial metal in Guiste's molding process in order to produce a molded product that is specifically armed against the bacteria that are targeted by Trogolo's metal.

Regarding Claim 10, Guiste shows the process as claimed as discussed in the rejection of Claim 8 above, but does not show using an ion-exchange solid. Trogolo shows that it is known to make an anti-microbial article including a process wherein said carrier solid is an ion-exchange solid and said anti-microbial metal is ion-exchanged onto said carrier solid (Column 3, lines 53-65). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Trogolo's anti-microbial composition in Guiste's molding process in order to produce a molded product that is specifically armed against the bacteria that are targeted by Trogolo's composition.

Regarding Claim 11, Guiste shows the process as claimed as discussed in the rejection of Claims 8 and 10 above, but does not show using a specific ion-exchange solid. Trogolo shows that it is known to make an anti-microbial article wherein the ion-exchange solid is zeolite (Column 3, lines 53-65). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Trogolo's specific anti-microbial solid in Guiste's molding process in order to produce a molded product that is specifically armed against the bacteria that are targeted by Trogolo's composition.

Regarding Claim 12, Guiste shows the process as claimed as discussed in the rejection of Claims 8 and 10 above, but does not show a specific anti-microbial metal. Trogolo shows that it



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is known to make an anti-microbial composition containing zinc as the anti-microbial metal (Column 3, lines 53-65). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Trogolo's specific anti-microbial metal in Guiste's molding process in order to produce a molded product that is specifically armed against the bacteria that are targeted by Trogolo's metal.

Regarding Claim 13, Guiste shows the process as claimed as discussed in the rejection of Claim 8 above, but does not show a specific polyolefin fusible solid. Trogolo shows that it is known to make an anti-microbial composition wherein said polyolefin fusible solid is polyethylene (Column 5, lines 42-47). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Trogolo's specific anti-microbial solid in Guiste's molding process in order to produce a molded product that is specifically armed against the bacteria that are targeted by Trogolo's composition.

Regarding Claim 14, Guiste shows the process as claimed as discussed in the rejection of Claim 8 above, but does not show a specific polyolefin fusible solid. Trogolo shows that it is known to make an anti-microbial composition wherein said polyolefin fusible solid is a hydrocarbon resin (Column 5, lines 42-47). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Trogolo's specific anti-microbial solid in Guiste's molding process in order to produce a molded product that is specifically armed against the bacteria that are targeted by Trogolo's composition.

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***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following patents are cited to further show the state of the art with regard to molding antibacterial articles in general:

U.S. Patent 5,085,416 to Miyake et al.

U.S. Patent 5,595,750 to Jacobson et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monica A Fontaine whose telephone number is 571-272-1198. The examiner can normally be reached on Monday-Friday 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mike Colaianni can be reached on 571-272-1196. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Maf  
February 20, 2004



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PRIMARY EXAMINER